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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/462,894	01/18/2000	ANIL K. AGARWAL	A 6930	5628

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EXAMINER

NGUYEN, STEVEN H D

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

9

Office Action Summary	Application No. 09/462,894	Applicant(s) AGARWAL, ANIL K.	
	Examiner Steven HD Nguyen	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 12-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 12-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 4 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim states that an interface to the wireless communication. However, the claim 1 includes a limitation such an interface for connecting said switch to said wireless communication link.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 4-9, 12-28, 30, 32 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raychaudhuri (USP 5684791) in view of Grossman (USP 5835730).

Raychaudhuri discloses a communication system for efficiently transmitting information signals in discrete cell/packets comprise ATM cells, frame relay packets and Internet packets, said system comprising at least two local area networks that are connected by a wireless communication link, each local area network comprising a switch for providing a plurality of cell/packets, each cell/packet comprising a HEC header and a payload; an interface for connecting said switch to said wireless communication link (Figs 1 and 2 discloses a ATM network used to link two wireless local network); furthermore, an interface includes a WATM/ATM header conversion (Fig 2, Ref 22 for translating standard ATM header into compressed header and combined compressed header with payload, then generating a wireless ATM frame); said interface comprising means for discriminating each cell/packet in said plurality of cell/packets; means for detecting a header in each of said cell/packets and for separating said header from payload; means for compressing said separated header; and means for combining said compressed header with said payload to form compressed header cells (Fig 2 discloses separating the header and payload of the received cell; the header will be compressed into 2 octets to translate ATM header into compressed ATM header and merging the compressed header with payload and generating a frame which includes frame header, compressed header, payload and CRC fields for transmitting onto wireless; See col. 2, lines 51-61; col. 5, lines 7-44); a frame assembler for assembling said compressed header cells into a frame; and means for transmitting said assembled frame (Fig 3a) and means for receiving said transmitted frames frame from said wireless communication link; and a frame disassembler for disassembling said

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frames into a plurality of compressed header cell/packets and said interface further comprises means for discriminating each compressed header cell in said plurality of compressed header cells; means for detecting a header in each of said compressed header cells and for separating said header from payload; means for decompressing said separated header; and means for combining said decompressed header with said payload to form cell/packets (Fig 2 for receiving and transmitting the wireless frame; generating ATM compressed header cell/standard cell between ref 20 and 43; See col. 2, lines 51-61; col. 5, lines 7-44). However, Raychaudhuri fails to disclose a method and system for a compressing/decompressing a header by using a lookup table for mapping between index coding with VPI/VCI. However, in the same field of endeavor, Grossman discloses a method and system for a compressing/decompressing a header by using a lookup table for mapping between index coding with VPI/VCI wherein index coding comprising two bytes and VPI/VCI comprising four bytes (Col, 2, lines 50 to col. 2, lines 67, lines Col 6, lines 5-11, 24-26 and col. 7, lines 1-31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a compressing/decompressing header by using a lookup table for mapping between index coding with VPI/VCI wherein index coding comprising two bytes and VPI/VCI comprising four bytes as disclosed by Grossman into Raychaudhuri. The motivation would have been to reduce the overhead and increase throughput of the wireless interface.

5. Claim 2-3 rejected under 35 U.S.C. 103(a) as being unpatentable over Raychaudhuri and Grossman as applied to claim 1 above, and further in view of Pirez (USP 5572548).

Raychaudhuri and Grossman fail to fully disclose the claimed invention. in the same field of endeavor, Pirez discloses encoding means for encoding said assembled frame (Fig 3, Ref 66) and an interleaver for interleaving a plurality of said assembled frame (Fig 3, Ref 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a QPSK encoder and interleaver for encoding/interleaving frames as disclosed by Pirez's system into the system of Raychaudhuri and Grossman. The motivation would have been to reduce the overhead and increase throughput of the wireless interface.

6. Claims 29, 31 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raychaudhuri and Grossman as applied to claim 27 above, and further in view of Milway (USP 6122279).

Raychaudhuri and Grossman disclose hashing in translation header. In the same field of endeavor, Milway discloses comparing step comprises at least one of hashing and table look-up techniques and header decompression table has $H1$ entries, wherein $H = 2n$, wherein $n \leq 16$ (Fig 5 for translating old header into new header for routing and table has 2^{16} because VCI has 16 bit).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a hashing method for translating old header into a new header as disclosed by Milway into Raychaudhuri and Grossman. The motivation would have been to reduce the routing delay.

7. Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raychaudhuri and Grossman as applied to claim 27 above, and further in view of Miyake (USP 5271010).

Raychaudhuri and Grossman do not fully disclose the claimed invention. In the same field of endeavor, Miyake discloses said transmission step further comprises generating an input entry for a compression table and generating an entry for a decompression table and transmitting said decompression table entry for input into said decompression table; said entry is transmitted in a cell; said entry is created and sent ahead of a user cell (Fig 11, an entry is transmitted within cell and in front of the user cell wherein the table includes these routing tag).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a routing tag for routing the ATM to its destination as disclosed by Miyake into Raychaudhuri and Grossman. The motivation would have been to prevent a data loss.

8. Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman (USP 5835730).

Grossman discloses an arrangement of signals in a cell/packet frame ATM cells; frame relay packets and Internet packets with compressed header comprising a first number of bytes comprising a table index "index coding" representing an original header portion comprising a second number of bytes, said first number "two bytes" being less than said second number "four bytes"; and a payload portion wherein said first number comprises two octets and said second number comprises four octets (Col, 2, lines 50 to col. 2, lines 67, lines Col 6, lines 5-11, 24-26 and col. 7, lines 1-31). Grossman fails to disclose the information is forwarded via a wireless communication. However, Grossman suggests the received information before processing for compressing the header is from a wireless network (Col. 1, lines 25-46). Since, a wireless communication is a network for using to carrying the information from one station to another

station. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to implement a wireless modem for transmitting the packet with compressed header via a wireless link. The motivation would have been to extend the range of the network and improve throughput of the wireless link.

Response to Arguments

9. Applicant's arguments filed 9/27/04 have been fully considered but they are not persuasive.

In response to page 11-13, the applicant states that Raychaudhuri and Grossman fail to disclose a system comprising two local wireless networks for communicating via satellite/wireless and compressing a header using a lookup table. In reply, Raychaudhuri discloses a wireless network for connecting two ATM networks comprising the step of the claimed invention excepting for a method of compressing a header using a lookup table. Grossman disclosed a method and system for receiving a packet stream such as ATM or MPEG from a wireless network such as satellite and using a lookup table for compressing the receiving header before forwarding into another device. Since, a wireless communication is a medium for using to convey information between the devices. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to apply Grossman's method into the system of Raychaudhuri in order to performing a compressing method into both end of the communication because it's implicit that if the sender compressing the header, the receiver must decompressing the header in order to recover the original signal.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Raychaudhuri discloses a method and system for transmitting the compressed header ATM cell via a wireless network and a lookup table is implicitly disclosed. Grossman discloses a method and system for compressing a ATM header using a lookup table before forwarding to the other end. Since, Grossman suggests that his method can be implemented on the ATM cell and Raychaudhuri suggests compressed header will improve throughput of the wireless node. Therefore, it would have been obvious to one of ordinary skill in the art to look into Grossman's method in order to apply into the teaching of Raychaudhuri. The motivation would have been to reduce the overhead and increase throughput of the wireless interface.

In response to applicant's argument that Grossman is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Grossman suggests that the receiving ATM is from a satellite network and using for communicating between the nodes.

In response to page 14, the applicant Pirez fails to disclose a time interleaving. In response to applicant's argument that the references fail to show certain features of applicant's

invention, it is noted that the features upon which applicant relies (i.e., time) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to page 14, the applicant states that Milway fails to disclose a method for hashing techniques. In reply, Milway clearly disclose a hashing technique for using to lookup an index table as disclosed in the final rejection and Grossman discloses a method and system for using a lookup technique for performing a header compressing.

In response to page 15, the applicant states that Miyake fails to disclose a method and system for exchanging a lookup table between the stations. In reply, Miyake discloses a method and system for compressing the address and input them into a table for using conversion the address of ATM cell as states in the final rejection.

The teaching of the references perform the claimed invention.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

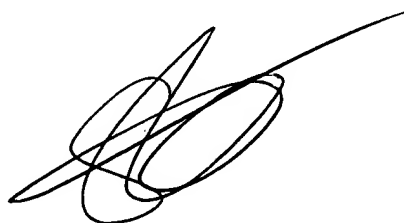
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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven HD Nguyen whose telephone number is (571) 272-3159. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Steven HD Nguyen
Primary Examiner
Art Unit 2665
1/16/05